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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,977	02/19/2004	Lindsay Grant	02EDI31052631	1026
27975	7590	02/03/2006	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			SOWARD, IDA M	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H-17

Office Action Summary	Application No. 10/781,977	Applicant(s) GRANT, LINDSAY	
	Examiner Ida M. Soward	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-24 and 29-37 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 17-24 and 29-37 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Applicant's amendment filed November 23, 2005.

Drawings

The objection to the drawings has been withdrawn due to the amendment filed.

Specification

The objection to the disclosure has been withdrawn due to the amendment filed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-22 and 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,906,364 B2) in view of Rhodes (US 2002/0109157 A1).

In regard to claims 17 and 29, Chen et al. teach a semiconductor image sensor comprising: at least one pixel comprising a photosensing portion 240 and a silicide

formation prevention coating 224/228 as an anti-reflective surface (the material the coating is made of, column 3, lines 55-63) (Figure 2E, column 3, lines 11-63).

In regard to the coating performing dual functions, claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function, In re Danly, 263, F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

In regard to claims 20 and 32, Chen et al. teach the silicide formation prevention coating 224/228 comprising a layer of silicon nitride and a layer of silicon dioxide adjacent thereto (Figure 2E, column 3, lines 55-63).

In regard to claims 21 and 33, where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, burden is on Applicant to show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In regard to claims 22 and 35, Chen et al. teach the photosensing portion comprising a photodiode (column 3, lines 11-14).

In regard to claim 34, Chen et al. teach the silicide formation prevention coating comprising a self-aligning technique (Figure 2E, column 3, lines 55-63).

However, Chen et al. fail to teach the silicide formation prevention coating having a thickness to operate as an anti-reflective surface at a desired wavelength range.

Rhodes teaches a silicide formation prevention coating 102 having a thickness (in the range of thickness as described in Applicant's specification) to operate as an

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anti-reflective surface at a desired wavelength range (Figure 12, page 5, paragraph [0057]).

Therefore, it would have been obvious to having ordinary skill in the art at the time the invention was made to modify the semiconductor image sensor structure as taught by Chen et al. with the semiconductor image sensor having a silicide formation prevention coating having a thickness to operate as an anti-reflective surface at a desired wavelength range as taught by Rhodes to improve the functioning of the sensor in applications where sheet resistance is of concern (page 5, paragraph [0051]).

In regard to claims 18 and 30, Rhodes teaches the silicide formation prevention coating 102 having a maximum transmission at a wavelength range of substantially blue light (Figure 12, page 4, paragraph [0045]).

In regard to claims 19 and 31, Rhodes teaches the silicide formation prevention coating 102 having a maximum transmission at a wavelength range of approximately 385 to 550nm, which is in the range of substantially 450nm (Figure 12, page 4, paragraph [0045]).

Claims 23-24 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,906,364 B2) and Rhodes (US 2002/0109157 A1) as applied to claims 17-22 and 29-35 above, and further in view of Guidash (US 2003/0062561 A1).

Chen et al. and Rhodes teach all mentioned in the rejection above.

However, Chen et al. and Rhodes fail to teach the photo-diode comprising a pinned photo-diode or a partially pinned photo-diode.

Guidash teaches a photo-diode 12 comprising a pinned photo-diode or a partially pinned photo-diode (Figures 8, 10 and 12, page 3, paragraph [0037]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor image sensor structure as taught by Chen et al. and the semiconductor image sensor having a silicide formation prevention coating having a thickness to operate as an anti-reflective surface at a desired wavelength range as taught by Rhodes with the semiconductor image sensor having a photo-diode comprising a pinned photo-diode or a partially pinned photo-diode as taught by Guidash to reduce the number of processing steps (page 3, paragraph [0036]).

Response to Arguments

Applicant's arguments with respect to claims 17-24 and 29-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to semiconductor image sensors:

Augusto et al. (US 2004/0097021 A1)	Chen et al. (US 6,506,619 B2)
Chen et al. (US 6,607,951 B2)	Lee et al. (6,051,447)
Lee et al. (US 2002/0020863 A1)	Nozaki et al. (US 6,642,087 B2)
Pan (US 6,552,320 B1)	Park et al. (US 6,794,215 B2)
Rhodes (US 6,291,280 B1)	Rhodes (US 6,844,580 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra V. Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "John M. Swann". The signature is fluid and cursive, with a large, sweeping flourish at the end.

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